Faunitaxys

Revue de Faunistique, Taxonomie et Systématique morphologique et moléculaire

Volume 13
Numéro 22

Avril 2025

ISSN (Print) : 2269 - 6016
ISSN (Online) : 2970 - 4960
Dépôt légal : Avril 2025

Faunitaxys

Revue de Faunistique, Taxonomie et Systématique morphologique et moléculaire

ZooBank : https://zoobank.org/79A36B2E-F645-4F9A-AE2B-ED32CE6771CC

Directeur de la publication, rédacteur, conception graphique et PAO:
Lionel Delaunay

Cette revue ne peut pas être vendue
Elle est distribuée par échange aux institutions (version papier)
et sur simple demande aux particuliers (format PDF)
à l'adresse suivante:

AFCFF (Association française de Cartographie de la Faune et de la Flore)
28, rue Voltaire, F- 42100 Saint Etienne
E-mail: faunitaxys.journal@gmail.com

Elle est disponible librement au téléchargement à partir du site:

https://faunitaxys.fr/

La parution de *Faunitaxys* est apériodique

Faunitaxys est indexé dans / ***Faunitaxys*** is indexed in:
- Zoological Record
Articles and nomenclatural novelties are referenced by:
- ZooBank (https://zoobank.org)
Online Archives:
- HAL (https://hal.archives-ouvertes.fr)
- Internet Archive (https://archive.org/details/faunitaxys)

Imprimée sur les presses de SPEED COPIE, 6, rue Tréfilerie, F- 42100 Saint-Etienne

Imprimé le 28 04 2025

https://doi.org/10.57800/faunitaxys-13(22)

Serrognathus titanus platymelus (Saunders, 1854) (Coleoptera: Lucanidae): First Record from the Kinmen and Matsu Archipelagos, Taiwan

JING-ZHI LIN

2F., No. 3, Aly. 152, Ln. 68, Yangguang St., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)
- leslie9562@gmail.com - ZooBank: https://zoobank.org/B594E28A-CF5A-4895-9E59-AF3EF0740C6E

Keywords:

Coleoptera;
Lucanidae;
Serrognathus;
faunal survey;
range extension;
island biogeography;
Kinmen;
Matsu;
Taiwan Strait;
East Asian fauna.

Abstract. – This study documents the first recorded occurrence of the stag beetle *Serrognathus titanus platymelus* (Saunders, 1854) in Taiwan's Kinmen and Matsu Islands, based on both specimen collections and photographic evidence. This discovery extends the known distribution range of these subspecies and provides new insights into the zoogeography of Lucanidae in the Taiwan Strait region. A diagnostic key to Taiwanese *Serrognathus* species is presented, incorporating morphological characters from both sexes to facilitate future identification. These findings highlight the importance of continued faunal surveys in understudied island ecosystems.

Lin J.-Z., 2025. – *Serrognathus titanus platymelus* (Saunders, 1854) (Coleoptera: Lucanidae): First Record from the Kinmen and Matsu Archipelagos, Taiwan. *Faunitaxys*, 13(22): 1 – 5.

DOI: https://doi.org/10.57800/faunitaxys-13(22)

ZooBank: https://zoobank.org/FFEB7FC7-AE50-4405-B92E-D0CD33F2B55A

Received: 04/04/2025 – *Revised*: 12/04/2025 – *Accepted*: 13/04/2025

Introduction

Taiwan is renowned for its unique biodiversity, with the stag beetle genus *Serrognathus* previously known to comprise only two endemic species (Chang, 2006, 2024; Huang & Chen, 2013). The fauna of Kinmen and Matsu Islands exhibit closer affinities to those of Fujian Province, China, than to Taiwan Island, suggesting potential undocumented species diversity in this region. Given the proximity of these islands to Fujian's eastern coast (10-20 km), faunal exchange is highly plausible (Shih et al., 2004), yet comprehensive insect surveys remain scarce. This study reports the first recorded presence of *Serrognathus titanus platymelus* (Saunders, 1854) in the Kinmen and Matsu Islands, based on examination of genital morphology, representing a significant addition to the documented fauna of Taiwan.

Material and Methods

All specimens examined in this study were legally obtained. For those within protected areas, only photographic documentation was used for observation and identification, with no physical collection conducted. Species identification was primarily conducted through comparison with recent taxonomic literature on stag beetles (Huang & Chen, 2013). Distribution records This study reports compiled from published works by Chang (1993, 2006, 2011), Huang & Chen (2013), and the present study.

JZLC: Jing-Zhi Lin's private collection, Taipei, Taiwan.

NTU: Insect Museum collection, Department of Entomology, National Taiwan University, Taipei, Taiwan.

NMNS: National Museum of Natural Science collection, Taichung, Taiwan.

Results

Tribe **Dorcini** Parry, 1864

Genus ***Serrognathus*** Motschulsky, 1861

Chinese common name: 扁鍬形蟲屬

Serrognathus titanus platymelus (Saunders, 1854)
(Fig. 1-4)
Chinese common name: 中華扁鍬形蟲

Material examined

TAIWAN. – **Lienchiang County** (Matsu Islands): **3** ♂, Banli Village (坂里村), Beigan Township (北竿鄉), Sept. 2024, local collector leg.

Deposited in JZLC, NTU, NMNS.

Photo records

TAIWAN. – **Kinmen County**: **1** ♂, Kinmen National Park, Lieyu Township (烈嶼鄉), July 2024, observed by C.-Z. Hong (Fig. 7).

Lienchiang County. – **1** ♂, Houwo Village (后沃村), Beigan Township (北竿鄉), 5 Sept. 2019, observed by Ms.Wang (Fig. 8).

List of *Serrognathus* Species in Taiwan

Records are based on Huang & Chen (2013), Chang (1993, 2006, 2011, 2024), and the present study.

1. ***Serrognathus titanus platymelus*** (Saunders, 1854)

Chinese common name: 中華扁鍬形蟲

Distribution. – Lienchiang County (Beigan), Kinmen County.

2. ***Serrognathus titanus sika*** (Kriesche,[1921])

Chinese common name: 台灣扁鍬形蟲

Distribution. – Endemic to Taiwan (widely distributed across the island, including Taipei City, New Taipei City, Taoyuan, Hsinchu, Miaoli, Taichung,

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.
Copyright 2025. The Authors. *Faunitaxys* published by Lionel Delaunay on behalf of the AFCFF (Association française de Cartographie de la Faune et de la Flore).

Changhua, Nantou, Yunlin, Chiayi, Tainan, Kaohsiung, Pingtung, Taitung, Hualien, and Yilan). Also present on Green Island. Altitude range: 0-1,400 m.

3. ***Serrognathus kyanrauensis*** (Miwa, 1934)

Chinese common name: 深山扁鍬形蟲

Distribution. – Endemic to Taiwan (found in Taipei City, New Taipei City, Taoyuan, Hsinchu, Miaoli, Taichung, Nantou, Yunlin, Chiayi, Kaohsiung, Pingtung, Taitung, Hualien, and Yilan). Altitude range: 0-2,000 m.

Discussion

The stag beetle fauna of Kinmen and Matsu Islands was previously considered to be species-poor, with only *Figulus binodulus* Waterhouse, 1873 having been recorded (Wu, 2003; Chang, 2011). This study confirms the presence of *Serrognathus titanus platymelus* (Saunders, 1854) in these archipelagos for the first time, consistent with its distribution in adjacent mainland China (Xiamen and Fuzhou; pers. comm. Z.-H. Qi, 2025). This phenomenon indicates that the species may have undergone colonization mediated by driftwood.

This finding reveals significant knowledge gaps in island coleopteran diversity research. Three priorities are proposed: (1) mapping current distribution of *S. titanus platymelus*, (2) studying its ecological relationships, and (3) evaluating impacts on native fauna.

The islands' transitional biogeography indicates a high likelihood of undocumented species, supported by their proximity to mainland sources, limited past surveys, and observed dispersal mechanisms. Standardized monitoring should be established to document species distributions and guide conservation efforts.

Notably, the discovery of *S. titanus platymelus* implies high potential for finding additional novel stag beetle species, given the islands' unique ecotonal characteristics and the possibility of ongoing colonization processes. This probability warrants expanded taxonomic surveys focusing on microhabitats and seasonal variations.

Acknowledgments

This study deeply grateful to Chia-Yuan Hsieh and Liang-Chuan Lee for their assistance, to Yu-Chen Wu for providing valuable specimens, and to Shih-Hang Hung and Ms. Wang for their support during fieldwork. Special thanks go to Zhi-Hao Qi (Fujian, China) for providing valuable information on the distribution of *Serrognathus titanus platymelus*.

References

Chang Y.J., 1993. – Stag beetles of Taiwan. Newton Press, Taipei. 111 pp. [in Chinese]

Chang Y.J., 2006. – Stag beetles 54. Yuan-Liou Publishing Company, Taipei. 160 pp. [in Chinese]

Chang Y.J., 2011. – Six-legged elves from golden islands (Volume I). Kinmen National Park, Kinmen, Taiwan. 272 pp. [in Chinese]

Chang Y.J., 2024. – Stag beetles 58. Yuan-Liou Publishing Company, Taipei. 191 pp. [in Chinese]

Huang H. & Chen C.C., 2013. – Stag beetles of China II. Formosa Ecological Company, Taipei. 716 pp. [in Chinese]

Kriesche R., 1920. – Ueber Eurytrachelus titanus Boisd. und seine Rassen. *Archiv für Naturgeschichte*, 86A (8): 114 - 119. [in German]

Miwa Y., 1934. – A study on the lucanid-Coleoptera from the Japanese Empire 5. *Transactions of the Natural History Society of Formosa*, 24(134): 317 - 332.

Motschulsky V., 1861. – Insectes du Japon. Coléoptères. *Etudes Entomologiques*, 10: 3 - 19. [in French]

Saunders W.W., 1854. – Characters of undescribed Lucanidae, collected in China by R. Fortune, Esq. *Transactions of the Entomological Society of London*, 2: 45 - 55.

Shih H.-T., Ho C.-C., Wu W.-J., Yang J.-T., Tsai M.-Y., Fang S.-J., Yang C.-J., Wang D.-T. & Chou H.-C., 2004. – A review and the present status of entomological research in Kinmen Islands and Matsu Islands, Fujian. *Formosan Entomologist Special Publication*, 6: 187 - 210.

Wu W.-Z. (ed.), 2003. – The insects of Matsu. Lienchiang County Government, Lienchiang, Taiwan. 194 pp. [in Chinese]

Key to Taiwanese taxa of *Serrognathus* (Adapted from Huang & Chen, 2013)

males

1. Mandible lacking dentition proximal to major tooth. Parameres approximately 1/3 the length of basal piece ..... ***Serrognathus kyanrauensis*** (Miwa, 1934)

— Mandible with distinct teeth proximal to major tooth. Parameres 1/2–2/3 the length of basal **2**

2. Mandible length ≤1.5 times head length; inner teeth typically continuous in large males. Paramere robust in lateral view, with a triangular and massive central projection ..... ***Serrognathus titanus sika*** (Kriesche,[1921])

— Mandible length >1.5 times head length; inner teeth often reduced in large males. Paramere slender in lateral view, with a acute and non-massive central projection ..... ***Serrognathus titanus platymelus*** (Saunders, 1854)

females

1. Pronotum and elytra with deep, large, and dense punctures, conferring a coarse and matte surface ..... ***Serrognathus kyanrauensis*** (Miwa, 1934)

— Pronotum and elytra with shallow, small, and sparse punctures, exhibiting moderate to strong shine on the surface **2**

2. Canthus with widest part not wider than half of eye ..... ***Serrognathus titanus sika*** (Kriesche, [1921])

— Canthus with widest part wider than half of eye ..... ***Serrognathus titanus platymelus*** (Saunders, 1854)

Fig. **1**-**2**. Habitus of small sized male of *Serrognathus titanus platymelus* (Saunders, 1854) (body length 49.3 mm), (will be stored in NMNS). **1**. Dorsal view. **2**. Ventral view.

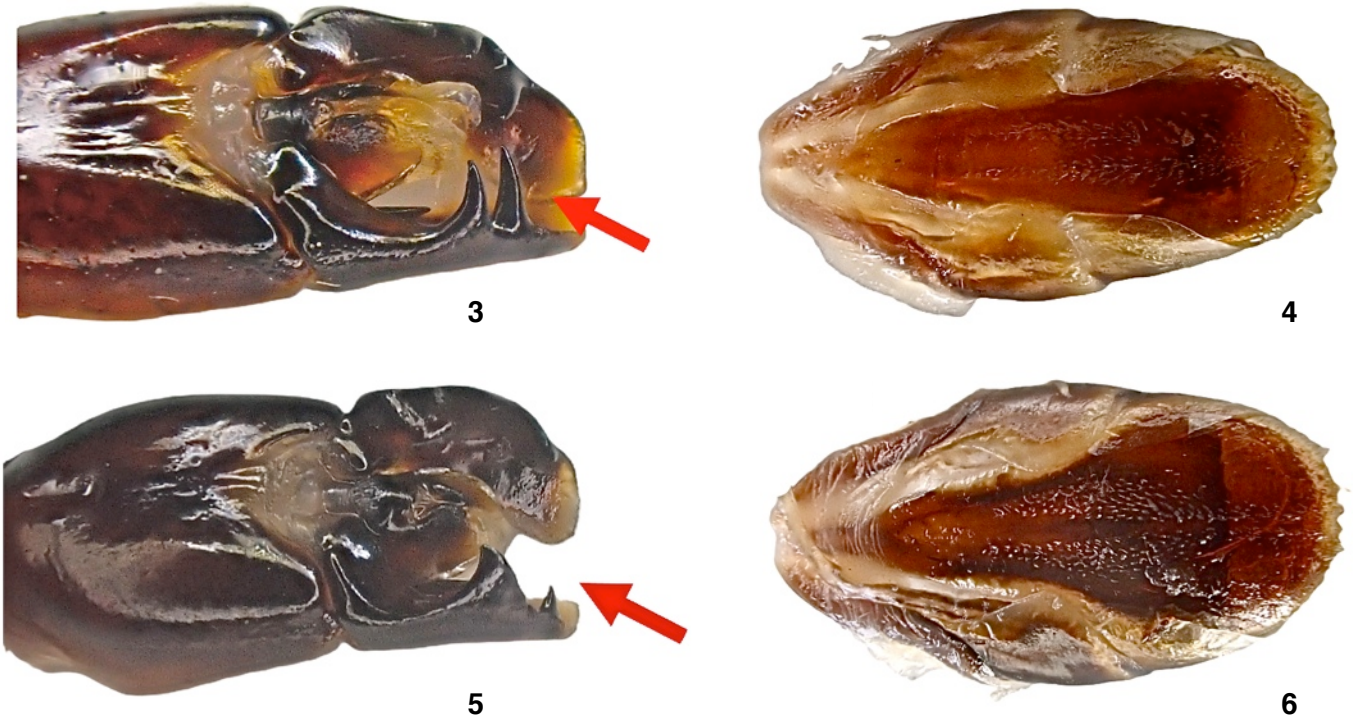

Fig. **3**-**6**. Male genitalia.

3-**4**. *Serrognathus titanus platymelus* (Saunders, 1854). **3**. Aedeagus in ventrolateral view. **4**. Abdominal segment IX in ventral view.

5-**6**. *Serrognathus titanus sika* (Kriesche, [1921]). **5**. Aedeagus in ventrolateral view. **6**. Abdominal segment IX in ventral view.

Fig. **7**. Field observation of diurnal activity in *Serrognathus titanus platymelus* (Saunders, 1854) in Kinmen County, Taiwan.

Fig. **8**. Field observation of diurnal activity in *Serrognathus titanus platymelus* (Saunders, 1854) in Lienchiang County (Matsu Islands), Taiwan.

Résumé

Lin J.-Z., 2025. – *Serrognathus titanus platymelus* (Saunders, 1854) (Coleoptera : Lucanidae) : première observation dans les archipels de Kinmen et de Matsu, Taiwan. *Faunitaxys*, 13(22): 1 – 5.

Cette étude documente la première observation enregistrée du lucane cerf-volant *Serrognathus titanus platymelus* (Saunders, 1854) dans les îles Kinmen et Matsu de Taïwan, à partir de spécimens collectés et de preuves photographiques. Cette découverte étend l'aire de répartition connue de ces sous-espèces et apporte de nouvelles perspectives sur la zoogéographie des Lucanidae dans la région du détroit de Taïwan. Une clé de détermination des espèces taïwanaises de *Serrognathus* est présentée, intégrant les caractères morphologiques des deux sexes afin de faciliter les identifications futures. Ces résultats soulignent l'importance de poursuivre les études faunistiques dans les écosystèmes insulaires peu étudiés.

Mots-clés. – Coleoptera, Lucanidae, *Serrognathus*, faunistique, répartition, biogéographie, Kinmen, Matsu, Taiwan, Asie.

Derniers articles publiés

Laguerre M., 2025. – New species of Arctiinae east of the Canal Zone, Panama (Lepidoptera, Erebidae, Arctiinae, Arctiini). *Faunitaxys*, 13(12): 1 – 17. https://doi.org/10.57800/faunitaxys-13(12)

Vlasak J., Botero J. P. & Santos-Silva A., 2025. – Cerambycidae and Disteniidae (Coleoptera) from Ecuador: new genus, new species, new records, and correction in species-group names. *Faunitaxys*, 13(13) : 1 – 14. DOI: https://doi.org/10.57800/faunitaxys-13(13)

Vives E., 2025. – Una nueva especie de *Pseudelasma* Breuning, 1968 (Coleoptera, Cerambycidae: Lamiinae). Cerambycidae de Vietnam (Pars 12). *Faunitaxys*, 13(14) : 1 – 2. https://doi.org/10.57800/faunitaxys-13(14)

Audureau A., 2025. – A propos de quelques Hemilophini nouveaux ou peu connus (Coleoptera, Cerambycidae, Lamiinae). *Faunitaxys*, 13(14): 1 – 6. https://doi.org/10.57800/faunitaxys-13(15)

Coache A., Dierkens M., Rainon B., Delaunay L., Josso J.-F. & Deschamps P., 2025. – Première évaluation de la faune des Scarabaeidae de la République du Bénin (Coleoptera, Scarabaeidae). *Faunitaxys*, 13(16): 1 – 119. https://doi.org/10.57800/faunitaxys-13(16)

Moret P. & Allegro G., 2025. – Illustrated checklist of the carabid beetles (Coleoptera, Carabidae) of the Otonga Nature Reserve in NW Ecuador, with ecological and biogeographic comments. *Faunitaxys*, 13(17) : 1 – 21. https://doi.org/10.57800/faunitaxys-13(17)

Huchet J.-B. & Mapile D.O.R., 2025. – A new species of *Nothochodaeus* Nikolajev, 2005 from Luzon Island, Philippines (Coleoptera: Scarabaeoidea: Ochodaeidae). *Faunitaxys*, 13(18) : 1 – 8. https://doi.org/10.57800/faunitaxys-13(18)

Vlasak J. & Santos-Silva A., 2025. – Cerambycidae (Coleoptera) from South America: new species, notes, and new records. *Faunitaxys*, 13(19) : 1 – 14. https://doi.org/10.57800/faunitaxys-13(19)

Dan Z., Zawgyi K. & Lourenço W. R., 2025. – An unusual new species of *Burmesescorpiops* Lourenço, 2016 from Cretaceous Burmese amber (Scorpiones: Palaeoeuscorpiidae: Archaeoscorpiopinae). *Faunitaxys*, 13(20): 1 – 6. https://doi.org/10.57800/faunitaxys-13(20)

Háva J., 2025. – *Litargus* (*Litargus*) *arabicus* **sp**. **nov**., a new species from Oman and Yemen, with list of Mycetophagidae (Coleoptera) species recorded from the Arabian Peninsula. *Faunitaxys*, 13(21): 1 – 2. https://doi.org/10.57800/faunitaxys-13(21)

Faunitaxys est échangée avec les revues suivantes (« print versions ») :

– Annali del Museo Civico di Storia Naturale G. Doria (Italie)
– Boletín de la Asociación española de Entomología (Espagne)
– Boletín de la Sociedad Andaluza de Entomología (Espagne)
– Bollettino del Museo di Storia Naturale di Venezia (Italie)
– Bulletin de la Société linnéenne de Lyon (France)
– Bulletin of Insectology (Italie)
– Heteropterus Rev. Entomol. (Espagne)
– Integrative Systematics (Allemagne)
– Israel Journal of Entomology (Israel)
– Klapalekiana (République Tchèque)
– Koleopterologische Rundschau (Allemagne)
– Memorie del Museo Civico di Storia Naturale di Verona (Italie)
– Nova Supplementa Entomologica (Allemagne)
– Proceedings of the Entomological Society of Washington (USA
– Revue suisse de Zoologie (Suisse)
– Spixiana (Allemagne)
– Zoosystematica Rossica (Russie)

Faunitaxys

Volume 13, Numéro 22, Avril 2025

SOMMAIRE

Serrognathus titanus platymelus (Saunders, 1854) (Coleoptera : Lucanidae) : première observation dans les archipels de Kinmen et de Matsu, Taiwan.

Jing-Zhi Lin . . . . . 1 – 5

CONTENTS

Serrognathus titanus platymelus (Saunders, 1854) (Coleoptera: Lucanidae): First Record from the Kinmen and Matsu Archipelagos, Taiwan.

Jing-Zhi Lin . . . . . 1 – 5

Illustration de la couverture :

This field observation documents Qinbi settlement on Beigan Island, Lienchiang County (Matsu Islands), renowned for maintaining the most intact traditional Mindong architecture in the region - a cultural landscape that parallels our study of endemic stag beetle habitats.

Crédits:

Jing-Zhi Lin: Fig. 1-8 & couverture.

Publié par l'Association Française de Cartographie de la Faune et de la Flore (AFCFF)